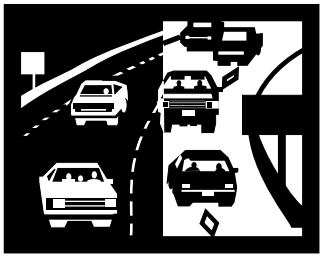
The State Highway System Plan



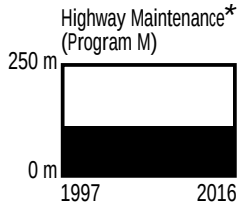
The State Highway System Plan is one element of Washington's Transportation Plan. It is important because it is the basis for the 1997-99 state transportation budget and the 1997-2003 six-year plan. Specifically, it provides service objectives and strategies for maintaining, operating, preserving, and improving our state highways.

Highway Programs

The following describes the major highway programs and sample action strategies.

Highway Maintenance (Program M)

Service Objective: Maintain state highways on a daily basis to ensure safe, reliable, and pleasant movement of people and goods.



20-Year Cost: $2.45 Billion
Plan Target: Fully fund over 20 years
20-Year Trend: The Maintenance Program remains relatively constant with a net increase of 3.5 percent over 20 years. It will decline slightly at the end of the first decade by fully meeting the Preservation Program lowest lifecycle paving strategy. The second decade will experience a small increase caused by overall growth of the highway system.

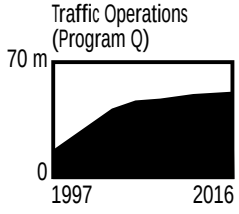
Specific components of this program include:

- **Providing Reliable Roadway Surfaces** — Patching potholes, filling cracks, and sealing asphalt or concrete surfaces reduces pavement deterioration.
- **Roadside Repair** — Repairing ditches, dikes, and slopes, as well as cleaning ditches, culverts, and other drainage structures to keep the roadway and adjacent property free of water runoff.
- **Vegetation** — Managing and maintaining 97,500 acres of vegetation adjacent to state highways through grass and brush control, litter removal, etc.
- **Structures** — Inspecting, repairing, and operating bridges.
- **Snow and Ice** — Plowing, sanding, deicing, and performing avalanche control to keep traffic moving safely during the winter season.
- **Traffic Signs, Signals, and Striping** — Maintaining and repairing lighting equipment, guardrails, signs, pavement markings, traffic signals, etc.
- **Rest Areas** — Cleaning and sanitizing restroom buildings, picking up litter, mowing lawns, routine maintenance, etc.

****Note:*** Icons represent the proposed 20-year expenditures in each program.

Traffic Operations (Program Q) (Formerly Transportation System Management)

Service Objective: Operate the highway transportation system safely and efficiently.



20-Year Cost: $410 Million
Plan Target: Fully fund over 20 years
20-Year Trend: The Q program is expected to grow approximately 50 percent over the next eight years as Traffic Management Centers are completed within the Central Puget Sound, Spokane, and Vancouver metropolitan areas. Upon completion, Q program costs are expected to be relatively constant over the ensuing 12 years. If fewer Improvement Program projects are completed, the need to address operational deficiencies will increase.

This program also provides the essential service of keeping traffic moving safely and efficiently. Personnel operate freeway flow control systems such as ramp meters, traffic signals, highway advisory radio, tunnel fire suppression ventilation systems, etc. Incident response crews and radio communications personnel coordinate with the Washington State Patrol and emergency services to clear traffic blockages, thus enhancing safety and transportation mobility.

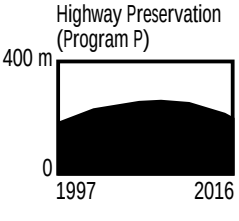
The Q Program also serves local constituents by addressing small cost safety improvements. These small investments (aside from routine maintenance) often represent the only improvements on state highways until a major Preservation or Improvement project occurs.

Efficiencies of travel time and fuel savings result from specially trained personnel who adjust timing and coordinate the 730 state-owned and operated traffic signals. This function is performed on a daily basis.

Traffic Operations is responsible for establishing statewide traffic standards, policies and signing programs for all of Washington State and its local roadways.

Highway Preservation (Program P)

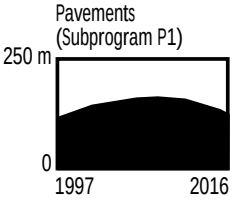
Service Objective: Preserve the highway infrastructure cost effectively to protect the public investment.



20-Year Cost: $4.00 Billion
Plan Target: Fully fund over 20 years
20-Year Trend: The P Program will decline over 20 years as pavements are resurfaced on a lowest life cycle cost schedule.

Whereas the Highway Maintenance and Traffic Operation Programs are concerned with daily safety and efficiency, the Highway Preservation Program focuses on the long-term health of the state highway system.

Pavements (Subprogram P1)

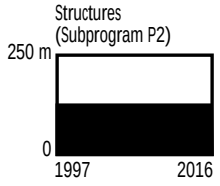


20-Year Cost: $2.33 Billion
Plan Target: Fully fund over 20 years

During the next 14 years, the Pavement Preservation Program will aggressively seek to catch up on pavement preservation and bring the highway system in line with the lowest life cycle cost schedule. Roadway and roadside safety is also

addressed through restoring and updating signing, guardrails, striping, drainage features, etc. Once lowest life cycle cost goals are achieved, the Pavement Preservation Program needs will decline accordingly.

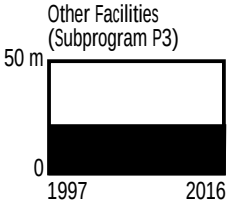
Structures (Subprogram P2)



20-Year Cost: $1.26 Billion
Plan Target: Fully fund over 20 years

This subprogram is designed to replace, retrofit, and renovate bridges and structures.

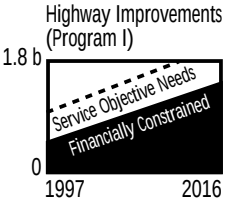
Other Facilities (Subprogram P3)



20-Year Cost: $420 Million
Plan Target: Fully fund over 20 years

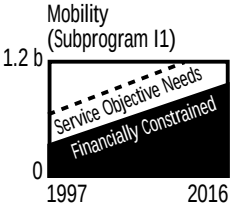
This subprogram is designed to stabilize known unstable slopes, such as potential landslide areas. The subprogram will also rebuild signals, construct truck weighing facilities, and refurbish safety rest areas to extend service life and improve safety. In addition, the program will provide funding for preservation of major drainage and electrical systems.

Highway Improvement (Program I)



Highway Improvement is the largest WSDOT program and is concerned with making the highway system work better. Its four subprograms are: Mobility, Highway Safety, Economic Initiatives, and Environmental Retrofit.

Mobility (Subprogram I1)



Service Objective: Improve mobility within congested corridors.

20-Year Cost: $15.1 Billion
Plan Target: Fund $6.14 Billion of 20-year needs

The Mobility subprogram consists of the following:

- **Puget Sound Core Freeway HOV Lanes** — The Puget Sound Core Freeway HOV Lane System will be fully completed. This commitment of $1.5 billion to the Puget Sound region represents a large part of the state's share of the high capacity transit (HCT) system under development in that region. Similar commitments in other urban regions (Clark, Thurston, and Spokane Counties) will be addressed as these areas more fully develop their HCT plans.
- **Urban and Rural Mobility Improvements** — Strives to maintain a Level of Service C on rural highways and a Level of Service D in urban areas. In urban areas, local and regional jurisdictions will cooperatively seek to mitigate congestion[1].
- **Access Control** — A cost-effective method for WSDOT to ensure the smooth flow of traffic on state highways as significant development and future traffic occurs.

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[1]Mobility deficiencies in urban and rural areas of the state are funded based upon urban and rural designations of the Growth Management Boundary. Allocation of urban and rural Mobility funds to each region is based on a combination of the region's prorata share of the total Highway System Plan mobility deficiencies and targeting top mobility deficiencies throughout the state.

- **Urban Bicycle Connections** — Provides bicycle connections along or across state highways within urban growth areas to complete local bicycle networks.

Reaching Regional Consensus on Highway System Plan Mobility Improvements

Throughout 1994, the WSDOT Regional Planning Offices met with Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs) to communicate the Transportation Commission's draft Program Trade-Off decisions. Working with affected MPOs and RTPOs, WSDOT reached consensus with the regions on the specific Mobility solutions to be included in the constrained final State Highway System Plan, which was used for the 1995-1997 biennium budget. Mobility strategies that are reasonably expected to be funded within available resources are listed in the Mobility Strategies appendix.

Programming Projects From the Systems Plan

Having reached agreement with the MPOs and RTPOs on the financially constrained solutions in the 20-Year State Highway System Plan, the state will continue to develop future biennial budgets from this list of improvements. The MPOs, RTPOs, and the state are each expected to include these mobility strategies in their respective transportation plans and to ensure local comprehensive plans do the same.

It is important to understand the basic mix of assumptions underlying the State Highway System Plan mobility solutions and trade-off decisions. These assumptions are as follows:

- Transportation demand management (such as encouraging people to take transit, walk, or carpool), traffic operations, access controls, and land use alternatives through the Growth Management Act are the first choices in meeting the mobility service objective. System expansion for single occupancy vehicles is a last resort strategy.
- The State Highway System Plan assumes some form of high capacity transit (such as commuter buses and rail) will be funded and in operation in the Central Puget Sound region and in Clark County in the next 20 years.
- Travel forecasts are based on projections of the trend line growth in travel, with consideration to the assumed effects of changing population (e.g., an aging population) and transportation demand management.

Public/Private Partnerships and Their Impact on the Mobility Subprogram

Currently, there are four potential public/private transportation proposals in Washington State:

- King County Park and Ride Capacity Enhancements,
- SR 522 Corridor Improvements,
- SR 16/Tacoma Narrows Bridge Improvements, and
- SR 520/Evergreen Point Floating Bridge Improvements.

These Public/Private Partnerships require extensive public involvement and approval before they can be implemented. It is important to understand that without private funding, these projects may not be included in the financially constrained mobility list in future state highway system plans.

For more information, contact:

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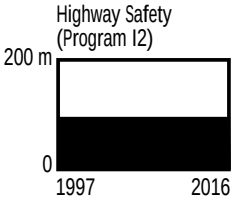
Olympia, WA 98504-7395
(360) 664-2900

Highway Safety (Subprogram I2)

Service Objective: Provide the safest possible highways within available resources.



20-Year Cost: $2.00 Billion
Plan Target: Fully fund over 20 years
20-Year Trend: Constant funding commitment to safety improvements.

WSDOT is aggressively pursuing this objective by targeting collision reduction and collision prevention improvements. Specifically, the Safety Program has the following two subcategories and their respective elements:

Collision Reduction[2]

- **High Accident Location** — Identifies short sections of highway (typically less than 0.25 miles) that exhibit accident rates above the statewide average for similar highways.
- **High Accident Corridors** — Identifies longer sections of highway (typically greater than 1 mile) that exhibit accident and severity rates above the statewide average.

[2]***Note:*** Collision Reduction strategies are targeted at highway corridors that have a history of a high rate of accidents and at High Accident Locations (HALS). HALS are typically spot locations that have a short history of accidents. Because of this, HALS cannot be forecasted in a 20-year plan and are programmed on a biennial basis. Therefore, specific improvements addressing HALS are not included in this plan.

- **Pedestrian Accident Locations** (PALS) and safe walking routes for school children are a part of the Reduction subcategory.

Collision Prevention

- **Risk Reduction** — Proactively identifies sections of highways that have a high probability of vehicles leaving the roadway.
- **Interstate Safety** — Provides funding for improvements on the Interstate system as defined by federal guidelines.
- **At-Grade Intersections** — Identifies intersections that have a high accident potential and recommends safety solutions such as interchanges and grade separations.
- **Signals and Channelizations** — Identifies high priority intersection improvements such as new traffic signals and added turn lanes.

In addition to these specific Improvement program subcategories, safety is an important element in the Maintenance, Preservation, Traffic Operations, Mobility, and Economic Initiative programs.

Achieving the safety objective cannot be done through highway investment alone. Vehicle manufacturers will have to continue their efforts to improve the safety of their vehicles. The Washington Traffic Safety Commission must continue to educate drivers about proper auto maintenance, safe driving, and the hazards of drunk driving. Finally, adequate enforcement by the Washington State Patrol and other law enforcement agencies is critical.

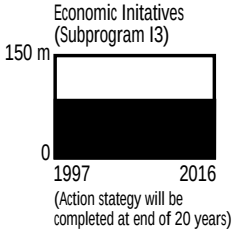
Economic Initiatives (Subprogram I3)

Service Objective: Support efficient and reliable freight movement on state highways.

Service Objective: Support tourism development and other Washington industries.

Service Objective: Preserve, restore, enhance, and maintain the heritage resources along scenic and recreational highways where appropriate, within state-owned rights of way and easements, and cooperatively with communities and interested parties* for heritage resources of state-interest outside state-owned rights of way, as identified in Corridor Management Plans.

Service Objective: Reinforce the state's competitive position in international trade.



20-Year Cost: $1.49 billion
Program Target: Fund $1.36 billion over 20 years
20-Year Trend: Constant funding commitment but completed in 20 years as the Trunk System is completed and the Freight and Goods Transportation System is improved.

*Interested Parties — Includes, but is not limited to cities, towns, counties, Tribes, Regional Transportation Planning Organizations, state and federal agencies, associations, special interest and corridor groups.

The following subcategories of the Economic Initiatives Program are fully funded at $1.28 billion:

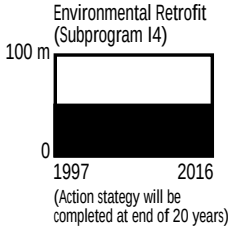
- **All-weather Highways** — Ensures rural highways on the Freight and Goods Transportation System are upgraded and are no longer subject to freeze-thaw restrictions.
- **Trunk System** — Completion of a four-lane, divided, statewide system of freight routes. The trunk system includes the Interstate System, SR 18, SR 395 between I-182 and I-90, and SR 12 between I-182 and SR 730.
- **Eliminate Bridge Restrictions** — Identifies and replaces state bridges that restrict the height or weight of freight movement on the Interstate system.
- **Border Crossings** — Highway improvements targeted at key international border crossings to improve the flow of products and people into and out of the state.

These components of the Economic Initiatives Program are partially funded:

- **Bicycle Touring Routes** — Rural highway bicycle touring loops are designated state highways that experience the most bicycling in the state. This program is designed to widen highway shoulders to a minimum of four feet along designated routes.
- **New Safety Rest Areas** — The construction of future safety rest areas will occur through partnerships and grant funding. Safety rest areas are targeted to occur within vicinity zones on the National Highway System and on Scenic and Recreational Highways.
- **Scenic and Recreational Highways (Byways)** — Projects that will achieve this service objective will be based upon grant and partnership funding that reflects statewide priorities and route specific needs. Innovative partnerships and the ability to leverage non-WSDOT funds are given priority consideration.

Environmental Retrofit (Subprogram I4)

Service Objective: Retrofit state highway facilities as appropriate to reduce existing environmental impacts.



20-Year Cost: $790 million
Plan Target: Fully fund over 20 years
20-Year Trend: Constant funding commitment to Environmental Retrofit needs but completed within 20 years.

The environmental retrofit objective is in response to currently unmitigated environmental impacts caused by the existing transportation system. It is critical to understand that the environmental retrofit program is in addition to WSDOT's commitment of performing appropriate environmental mitigation as a part of all other highway system projects.

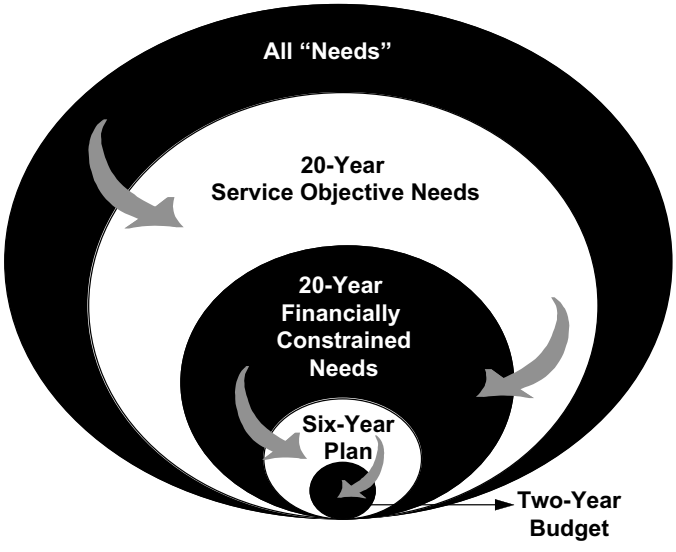
Specifically, the program focuses on:

- **Noise Walls** — Add noise mitigation along state highways where neighborhoods are exposed to unacceptable noise levels as defined by federal statute.
- **Fish Passage** — Targeting the removal of fish barriers along state highways. Based on benefit cost analysis, approximately 10 to 12 fish passage barriers are identified to be removed every two years.
- **Stormwater Discharge** — Reconstruct existing stormwater discharge facilities according to new state and federal requirements. WSDOT has surveyed over 1,000 miles of state highways and 2,932 outfalls in Spokane County, Clark County, and the Puget Sound region. Nearly 400 outfalls have been designated as a top priority for retrofitting. Future State Highway System Plans will include stormwater retrofit needs on the Olympic Peninsula.
- **Statewide Implementation Plan (SIP) for Air Quality** — WSDOT is committed to implement all transportation control measures as identified in this plan. Currently, there are no transportation control measures specifically identified in either the SIP or the State Highway System Plan, but air quality programs will continue to be monitored and projects will be included as needed.
- **Construct All System Improvements With No Net Loss of Wetlands** — WSDOT is committed to this as a continuous responsibility of the agency.

Transportation Needs and the Commission's Highway System Plan

The Transportation Commission is the policy making body for WSDOT. The Transportation Commission has adopted ten service objectives and 51 action strategies describing the services that should be provided by the State Highway System Plan. These define the state's highway "needs." The cost to achieve these objectives over 20 years exceeds $26 billion, while revenues over the same period were originally projected at $18.1 billion. Newer trends show revenues may be closer to $17.1 billion over 20 years. Given the disparity between needs and revenues, the State Highway System Plan is prioritized and constrained to a financial level that can reasonably be expected over the next 20 years.

Financially Constrained Planning



Potential revenues over 20 years may not be enough to fund even the reduced level of service objective needs. Therefore, priorities are established to further limit service objective needs to a financially realistic level. Washington's Transportation Plan proposes strategies and actions over 20 years within this financially realistic level. Finally, a two-year budget and six-year plan are proposed to advance the most important projects contained in the 20-year plan. These projects are chosen through the priority programming process.

Summary of Trade-Off Decisions

Based on the limited projected revenues in comparison to transportation needs, the Transportation Commission made the following trade-off decisions:

1. Maintenance, operation, and preservation activities are a top priority.
2. Environmental Retrofit, Economic Initiatives, Core HOV, and Safety Improvement service objectives are to be fully met.
3. Because of limited revenues, only about 40 percent of the Mobility service objectives are met.

By fully funding the Maintenance, Traffic Operations, and Preservation Programs, this effectively causes long-term shortfalls to occur in the Improvement Program. However, future biennial reductions in Maintenance, Traffic Operations, and/or Preservation may occur to meet emergent Improvement Program needs. Because the Maintenance, Traffic Operations, and Preservation Programs are on a lowest life cycle cost basis, short-term reductions in these programs would result in increased long-term 20-year costs to achieve the Maintenance, Traffic Operations, and Preservation service objectives.

These trade-off decisions clearly communicate that the majority of system expansion program needs are beyond reasonably expected revenues over the next 20 years. Increasing growth management, demand management, and other innovative strategies are essential to addressing state highway deficiencies.

State Highway System Plan Trade-Off Decisions
(1995 Billion Dollars)